

## The Stability of Attachment Security from Infancy to Adolescence and Early Adulthood: General Introduction

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Current attachment theory hypothesizes that attachment security during infancy influences individual differences in adult representations of attachment. We present three long-term longitudinal studies using three different samples relevant to this hypothesis. Each study assesses infant attachment by using the Ainsworth Strange Situation and adult attachment by using the Berkeley Adult Attachment Interview (AAI). Attachment security was significantly stable in the first two studies. Discontinuity in all three studies was related to negative life events and circumstances. Comparison of the results across these complementary studies affords a degree of replication and sheds light on alternative interpretations. Various mechanisms underlying the stability and instability of attachment security are discussed.

### INTRODUCTION

The role of early experience in later development is an enduring issue in developmental psychology. This issue is of theoretical and clinical interest and, in important respects, defines the relation of developmental psychology to the social, personality, and clinical psychology of adulthood. Developmentalists today generally agree that infants can meaningfully engage, experience, influence, and represent their environments (e.g., Mehler & Dupoux, 1993; Sroufe, 1997). They also agree that characteristics of both individuals and environments can be coherent over time. Thus theory and research agree that developmental change is both coherent across time and open to environmental influences (e.g., Ainsworth & Marvin, 1995; Lewis, 1997; Sroufe, 1979; Sroufe & Rutter, 1984; Waters & Sroufe, 1983). Just as few developmentalists would say that early experience is never important, few would say that it ever guarantees long-term developmental outcomes or inoculates against subsequent trauma or deprivation (Sameroff & Chandler, 1975; Sroufe & Jacobvitz, 1989).

Despite this hard-won consensus, much about the importance of early experience, the stability of individual differences, and the role of individual and environmental variables in specific areas of cognition, behavior, or emotion is domain specific. The general principles are clear. But for any area of cognition, behavior, or emotion, the specifics depend on formulating and testing causal hypotheses and integrating domain-specific hypotheses with general ideas about early experience.

Attachment theorists have made important contributions to current views of early experience and individual differences. The secure base relationship in infancy depends on experience. It is exquisitely attuned

to context and, although available across a wide range of situations and across age, its operating characteristics remain open to revision in light of significant new experiences (Bowlby, 1969; Waters, Kondo-Ikemura, Posada, & Richters, 1991). Bowlby (1969, 1973) hypothesized that early relationship experience with the primary caregiver leads eventually to generalized expectations about the self, others, and the world. Cognitive representations of these expectations are referred to as “working models.” Although such representations emerge early in development, they continue to evolve in light of attachment-related experiences during childhood and adolescence (Bowlby, 1973; Bretherton, 1990; Oppenheim & Waters, 1995).

Bowlby's (1969) hypotheses about infant and adult attachment have generated a great deal of research on secure base behavior in infancy and attachment representations in adulthood; it is only now becoming possible to conduct long-term follow-up studies to examine his ideas about consistency and change from childhood to early adulthood. The accompanying studies examine relations between infant attachment classifications and attachment representations in early adulthood. These studies share several goals. The first is to provide descriptive information about the stability and change in attachment organization from infancy to late adolescence/early adulthood in a variety of developmental contexts. As Fox (1995) has noted, such data are important points of reference for ongoing controversies in attachment research. The second goal is to determine whether stressful attachment-related life events are related to changes in attach-

ment organization over this interval. As Vaughn, Egeland, Sroufe, and Waters (1979) emphasized, change per se does not contradict Bowlby's theory. One of Bowlby's most important departures from classical psychoanalytic theory was his emphasis on actual (as opposed to fantasized) experience. For attachment organization to persist despite significant attachment-related experiences would present a major challenge to this formulation. The third goal of the accompanying studies is to stimulate discussion and research on the mechanisms underlying stability and change in attachment representations. A number of developmentalists (e.g., Belsky, Campbell, Cohn, & Moore, 1996; Carlson & Sroufe, 1995; Sroufe & Jacobvitz, 1989; van IJzendoorn, Juffer, & Duyvesteyn, 1995) have emphasized the importance of developing models to guide longitudinal research on these issues and the difficulty of doing so without initial empirical benchmarks.

### SAMPLES, DESIGNS, AND SHARED MEASURES

Each of the following studies employs a similar design: they assess attachment in infancy and attachment representation in young adulthood. The first study (Waters, Merrick, Treboux, Crowell, & Albersheim, 2000) presents findings on a sample of young adults reared in middle-class families. The second study (Hamilton, 2000) includes families participating in a longitudinal study of alternative family lifestyles. This unique sample provides important information about the extent to which the results of the first study might be specific to middle-class samples. The third study (Weinfield, Sroufe, & Egeland, 2000) reports on a sample of extremely disadvantaged families who experienced rates and types of stressful life events far beyond anything encountered in the other two samples. This study is important for at least two reasons. First, the sample itself places research on predominantly middle-class samples in a useful context. Second, it provides useful information about the vicissitudes of stressful life events and their impact on attachment.

In addition to sharing similar designs, each of the following studies used the Ainsworth Strange Situation to assess attachment security in infancy and the Berkeley Adult Attachment Interview (AAI) to assess attachment security in early adulthood. For economy, we outline the procedures and scoring systems for these familiar measures here rather than repeating them in each study.

*Ainsworth Strange Situation.* "Security" is a key construct in attachment theory (Waters and Cummings, 2000). A secure infant is able to use one or a few at-

tachment figures as a secure base from which to explore and as a haven of safety in retreat and is confident in this person's availability, responsiveness, and competence to serve as a secure base. This secure base phenomenon is best assessed by direct observation across time and context in naturalistic settings. Unfortunately, such observation is time-consuming and difficult to do well. Ainsworth, Bell, and Stayton (1971, p. 37), Ainsworth, Blehar, Waters, and Wall (1978, p. 242), and Vaughn and Waters (1990) have demonstrated that we can make strong inferences about the everyday secure base behavior of home-reared middle-class U.S. infants from their behavior in a brief series of separations and reunions in the laboratory. The Strange Situation consists of eight episodes: mother-child free-play (Episodes 1, 2, 3), experimenter-child free play (Episodes 3, 6), separation from mother (Episodes 4, 7), and reunion with mother (Episodes 5, 8). On the basis primarily of response to the mother during two reunion episodes, infants are classified as secure (i.e., confident in mother's availability and responsiveness), insecure-avoidant, or insecure-resistant. In middle-class U.S. samples, approximately 65% to 75% of home-reared 1-year-olds are classified secure. Both the proportion of infants who cry and the proportion of infants classified secure versus insecure have been shown to differ within and across cultures.

All *secure* infants greet or approach the mother on reunion; if upset or crying they are comforted by physical contact, holding and interaction with the mother; they do not avert gaze, show signs of anger, or seek to be put down before they are ready to return to play. Their play returns to preseparation levels by the end of the episode. *Insecure-avoidant* infants are less likely to cry in response to separation; they are identified primarily by failure to greet the mother, aborted approaches, or ignoring the mother early in the reunion episode. Such avoidance tends to increase rather than decrease from the first to the second reunion. *Insecure-resistant* infants (sometimes referred to as ambivalent) are very likely to cry during the separation episodes. When the mother returns they often continue to cry; they often look at and reach for the mother with little or no active approach. When picked up, they do not actively cling and are not easily comforted. If the mother offers a toy they often show continued distress by slapping at it or at her but this is not accompanied by active turning in or by clinging. They frequently stop crying only to start again if the mother puts them down to play. An additional classification of insecure disorganized-disoriented (Main & Solomon, 1986) is not included in the present studies because the infant assessments

were conducted before this pattern was described and validated.

As predicted by Bowlby-Ainsworth attachment theory, sensitive maternal care and related behaviors throughout infancy are consistent correlates of the "secure" Strange Situation classification (Ainsworth et al., 1978; DeWolff & van IJzendoorn, 1997; Posada et al., 1999). Lamb, Thompson, Gardner, and Charnov (1985) summarize a wide range of attachment- and competence-related correlates that lend support to the validity of the Strange Situation classifications as a measure of attachment security. Finally, the secure versus insecure classification has good discriminant validity vis-à-vis both cognitive developmental level (Ainsworth et al., 1978) and temperament (Sroufe, 1985).<sup>1</sup>

The validity of the Strange Situation in any population or culture rests on its relations to patterns of secure base behavior over time and contexts in naturalistic settings (Ainsworth et al., 1971, p. 37; Ainsworth et al., 1978, p. 242; Vaughn & Waters, 1990). There may well be populations in which the Strange Situation does not map closely onto secure base patterns in daily life. In such circumstances valid assessment is always possible by means of direct observation of secure base behavior as in Ainsworth's Baltimore longitudinal study (Ainsworth et al., 1978) or recent studies using the Attachment Q-set (e.g., Waters & Deane, 1985; Waters, Vaughn, Posada, & Teti, 1999). Bowlby-Ainsworth attachment theory does not depend on the Strange Situation working equally well in every population. It does, however, depend on our evaluating its validity before using it in new contexts. When this is done, studies of attachment stability and cultural differences in rates of secure versus insecure attachment across cultures can only enrich attachment theory. When we can rule out measurement failures, population differences can be important clues that direct attention to (1) cultural or ecological differences in caregiver behavior, (2) ecological adaptations in the way secure infants use caregivers, or (3) cultural or ecological specificity in the relation between caregiver

behavior and infant secure base behavior. With close attention to the reliability and validity of caregiving and secure base assessments, cross-cultural research can make a significant contribution to our understanding of the development and function of secure base behavior (Waters and Cummings 2000).

*Berkeley Adult Attachment Interview.* Bowlby proposed that with age and cognitive development, sensorimotor representations of secure base experience give rise to internalized mental representations through a process in which the child constructs increasingly complex internalized representations of the world and of significant persons in it. The relative safety or danger of a situation and the availability and responsiveness of significant attachment persons are not appraised afresh every time; rather, an organized pattern of internalized representations (including affective as well as cognitive components) both within and outside of conscious awareness organizes information relevant to attachment experiences and feelings and guides behavior in new situations (Bretherton, 1985; Main, Kaplan, & Cassidy, 1985).

In an effort to capture a generalized representation of attachment, Mary Main and her colleagues developed a semistructured interview about childhood attachment relationships and the meaning that the individual currently gives to past experiences in these relationships (George, Kaplan, & Main, 1985, 1996). The narrative is examined for material purposely expressed by the individual and for material the individual seems unaware of, for example, apparent incoherence and inconsistencies of discourse, thus aiming to assess elements of attachment representations which are not conscious. The scoring system (Main & Goldwyn, 1985–1995) is based upon (1) descriptions of childhood experiences, (2) language used in the interview, and (3) ability to give an integrated, believable account of experiences and their meaning. The language and discourse style used is considered to reflect the individual's state of mind with respect to attachment.

Individuals classified as *secure* coherently and believably describe diverse childhood experiences, value attachment relationships, and view attachment-related experiences as influential in development. Adults are classified as *insecure* on the basis of incoherence in the interview. Adults classified as *dismissing* deny or devalue the impact of attachment relationships, have difficulty with recall of events, often idealize experiences, and often describe an early history of rejection. Adults classified as *preoccupied* display confusion about past experiences, and their discussions of parental relationships are marked by active anger or by passivity and continued attempts to please parents.

<sup>1</sup> Although the weight of available evidence supports the secure base interpretation of secure versus insecure Strange Situation classifications, relations between attachment and temperament deserve further study. Unresolved issues include (1) the effect of infant temperament on maternal sensitivity; (2) the effect of "fit" between infant and maternal temperament on maternal sensitivity; (3) the role of maternal care on the consolidation of temperament-like characteristics; (4) the relation of positive affect, temperament, and attachment behavior in the Strange Situation and at home; (5) the nature of individual differences within secure and insecure groups; and (6) the possibility that temperament influences an infant or child's perception of and response to intrusive care (Seifer & Schiller, 1995). Resolving these issues could help clarify mechanisms that underlie both stability and change in attachment security.

An additional classification, unresolved with respect to loss of a family member or significant relationship or abuse at the hands of a parent or primary caregiver (U), is assigned if a subject's discussion of these specific events is judged incoherent. Subjects are assigned both a secure/preoccupied/dismissing classification and, if applicable, the unresolved classification. In the present studies, comparisons with the three Strange Situation groups were based on the subjects' secure/preoccupied/dismissing AAI classification. When AAI classifications are dichotomized (secure versus insecure), any secure adults who received a U classification are designated insecure.

AAI classifications have been shown to be highly stable in a number of short-term test-retest studies (see Crowell & Treboux, 1995; Sagi, van IJzendoorn, Scharf, Koren-Karie, Joels, & Mayseless, 1994). Several types of data support the attachment working model interpretation of the AAI. For example, Gao, Waters, Crowell, and Treboux (1997) have shown that AAI classifications are significantly related to engaged adults' ability to both use and serve as a secure base for their partner during discussions of relationship problems. The strong concordance between maternal AAI and infant attachment security (Main et al., 1985; Posada, Waters, Crowell, & Lay, 1995; van IJzendoorn, 1992) is also relevant to the measure's validity. Studies have also demonstrated substantial predictive, concurrent, and retrospective correspondence between parents' mental representation of attachment as assessed by the AAI and their infants' attachment security as assessed in the Strange Situation (e.g., Fonagy, Steele, & Steele, 1991; Main et al., 1985; van IJzendoorn, 1992; see Crowell & Treboux, 1995, for a review). The discriminant validity of secure versus insecure AAI classifications has been established vis-à-vis IQ, cognitive style, narrative style, general adjustment, and a variety of personality trait variables (Bakermans-Kranenburg & van IJzendoorn, 1993; Crowell et al., 1996).<sup>2</sup>

*Negative life-events.* In the studies presented here we identified a core set of life events derived from the theoretical and empirical literature that would be expected to influence the stability of attachment directly

by altering the child-parent relationship and indirectly by increasing life stress for the parents. These events, identified by Bowlby (1953), included the death of a parent, foster care, parental divorce, chronic and severe illness of parent or child, single parent, parental psychiatric disorder, drug and alcohol abuse, and child experience of physical or sexual abuse. In the Waters et al. (2000) study negative life events were scored from the AAI and by checklist in early adulthood; Hamilton (2000) and Weinfield et al. (2000) assessed negative life events prospectively from measures administered during their longitudinal studies.

The purpose of these life event assessments was to test the hypothesis that changes in attachment organization are not random but rather are related to events that bear on the caregiver's availability and responsiveness. These are complex issues. They cannot be addressed in a single study or a single research design. The present studies establish some of the key parameters of attachment stability and change from infancy to early adulthood. They are a necessary first step toward understanding the mechanisms that explain stability and change across such intervals.

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<sup>2</sup> As with the Strange Situation, there appear to be cultural and subcultural differences in the proportion of subjects classified secure versus insecure. Such differences are difficult to interpret. The English syntactic, semantic, and pragmatic cues used to score the AAI cannot be translated directly to another language. Nor is there an accepted criterion comparable to infant secure base behavior that can validate, and if necessary stand in for, the AAI in cross-cultural research. This is a significant obstacle to research on the generalizability of research with the AAI.

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